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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/675,535
Filing Date: September 30, 2003
Appellant(s): FARCHMIN, DAVID W.

Thomas K. Krumenacher
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 28 April 2010 appealing from the Office action mailed 12 January 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 2, 24, 47, 55, 61, and 70 have been previously cancelled. Claims 1, 3-23, 25-46, 48-54, 56-60, and 62-69 are pending in the present application. Claims 1, 3-23, 25-46, 48-54, 56-60, and 62-69 have been finally rejected under 35 U.S.C. § 103(a).

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

2003/0234741 A1	Roger et al.	06-2002
2004/0235468 A1	Luebke et al.	05-2003
2005/0021158 A1	De Meyer et al.	09-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3, 5, 7, 9, 11-23, 25, 26, 28-33, 35-42, 44, 48, 50, 51, 54, 56-60 and 62-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2005/0021158 (hereinafter De Meyer).

Claims 4, 6, 10, 27, 34, 43, 45, 46, 49, 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Meyer in view of U.S. Patent Publication No. 2003/0234741 (hereinafter Rogers).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over De Meyer in view of U.S. Patent Publication No. 2004/0235468 (hereinafter Luebke).

The following ground(s) of rejection are applicable to the appealed claims and were set forth in the Final Office Action mailed 12 January 2010, reproduced below for completeness:

As per claim 1, De Meyer teaches an apparatus for use in an automated environment including at least a first automated assembly including a plurality of components that facilitate an automated process, at least one portable wireless information device (WID) and a controller for controlling the assembly, the apparatus comprising:

a first component (pg. 5, par. [0052] and Fig. 11, element AP1) that is one of the plurality of components (pg. 1, par. [0009], pg. 4, par. [0051]) and that is linked (Fig. 11, element CN) to the controller (pg. 3, par. [0028] and [0030] and Fig. 11, element CS) to facilitate at least a sub-process associated with the automated process (pg. 2, par. [0016] and pg. 7, par. [0071]), the first component including at least a first wireless receiver (pg. 3, par. [0025], i.e. receiver) for receiving wireless signals from the at least one WID (pg. 3, par. [0026], pg. 8, par. [0077] and Fig. 11, element MU); and

a processor (Fig. 11, element CS) receiving signals from the first receiver and running location determining software for determining the location of the at least one WID as a function of the signals received there from (pg. 8, par. [0077]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing

information directly to a human user of the interface device since at the time of Applicant's invention was shown to be known in the art wherein an human-machine interface (HMI) device is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 3, De Meyer teaches as set forth above at least one of the automated assembly components includes a mounting surface accessible within the environment and proximate the automated assembly and wherein the HMI is mounted to the mounting surface (pg. 3, par. [0024]).

As per claim 5, De Meyer teaches as set forth above the HMI includes the processor (Fig. 1, element CS) for determining location (pg. 8, par. [0077]).

As per claim 7, De Meyer teaches as set forth above the first component (Fig. 11, element AP) is linked to the controller (Fig. 11, element CS) via a communication network and is also linked to the processor via the communication network (pg. 3, par. [0028], pg. 4, par. [0041] and pg. 7, par. [0071]).

As per claim 9, De Meyer teaches as set forth above the processor (Fig. 11, element CS) is part of the controller (pg. 3, par. [0028] and [0030], pg. 5, par. [0077] and Fig. 11, element CS).

As per claim 11, De Meyer teaches as set forth above the first receiver is juxtaposed proximate the automated assembly (pg. 3, par. [0024] and [0026] and Fig. 11, element AP5) and wherein the apparatus further includes at least a second receiver (pg. 8, par. [0077], Fig. 11, element AP6, i.e. receiving devices) positioned at a second location relative to the automated assembly (Fig. 11), the second receiver also providing received signals to the processor the processor determining WID location as a function of the signals received from each of the first and second receivers (pg. 8, par. [0077]).

As per claim 12, De Meyer teaches as set forth above the environment includes at least a second automated assembly (Fig. 11, element OA3) controlled by the controller (Fig. 11, element CS) and including a second plurality of components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) provided to facilitate an automated process (pg. 2, par. [0016]), the apparatus further including at least a second component (Fig. 11, element AP3) that is one of the second plurality of components and that is linked to the controller (Fig. 11, element CN), the second component including the second receiver (Fig. 11, element AP3, i.e. receiving devices)

for receiving signals from the at least one WID and providing the received signals to the processor (pg. 8, par. [0077]).

As per claim 13, De Meyer teaches as set forth above each of the first and second components are human-machine interfaces (HMIs) and each is linked to the controller via a communication network (pg. 8, par. [0077]).

As per claim 14, De Meyer teaches as set forth above the processor is embedded within the first HMI and wherein the second HMI is linked to the first HMI via the communication network (pg. 8, par. [0077], i.e. HMI communication module).

As per claim 15, De Meyer teaches as set forth above at least a third receiver (Fig. 11, element AP4, i.e. receiving devices) positioned at a third location relative to the first and second automated assemblies for receiving signals from the at least one WID (pg. 8, par. [0077]), the third receiver linked to the processor (Fig. 11, element CS) via the communication network (Fig. 11, element CN), the processor receiving signals from the first, second and third receivers and using the received signal to determine WID location (pg. 7, par. [0073]).

As per claim 16, De Meyer teaches as set forth above a wireless data system (pg. 3, par. [0025] and pg. 8, par. [0077]), the data system including a plurality of

access points (Fig. 11, element AP3-AP6), each access point including a receiver (i.e. "receiving devices") and a transmitter for receiving data from and transmitting data to the at least one WID, respectively (pg. 3, par. [0025]).

As per claim 17, De Meyer teaches as set forth above at least a sub-set of the access points (Fig. 11, element AP3-AP6) generates location information and wherein the location information is provided to the processor via the communication network and used by the processor to determine WID location (pg. 8, par. [0077]).

As per claim 18, De Meyer teaches as set forth above a wireless data system linked to the controller (Fig. 11, element CS) for transmitting data to and receiving data from the at least one WID (pg. 8, par. [0077]).

As per claim 19, De Meyer teaches as set forth above the wireless data system includes data receivers that are separate from the first receiver (pg. 8, par. [0077] and Fig. 11, element AP3-AP6, i.e. receiving devices).

As per claim 20, De Meyer teaches as set forth above the data system includes access points (Fig. 11, element AP3-AP6), each access point including one of the data receivers (pg. 8, par. [0077], i.e. "receiving devices") and also including a data transmitter (pg. 3, par. [0025]), information received by at least a sub-set of the data

receivers provided to the processor (pg. 8, par. [0077]), the processor (Fig. 11, element CS) using the information from the sub-set of data receivers and the first receiver to determine WID location (pg. 8, par. 0077]).

As per claim 21, De Meyer teaches as set forth above the first component also includes a first transmitter for transmitting data to the at least one WID (pg. 3, par. [0025]).

As per claim 22, De Meyer teaches as set forth above the first component includes a transmitter for wirelessly transmitting data (pg. 3, par. [0025]).

As per claim 23, De Meyer teaches a system comprising:

a controller (Fig. 11, element CS) for controlling an automated assembly (pg. 3, par. [0028] and [0030]);

at least one portable wireless information device (WID) that transmits wireless signals (Fig. 11, element MU);

at least a first automated assembly (Fig. 11, element OA4) including a plurality of components that together facilitate an automated process (pg. 1, par. [0009], pg. 4, par. [0051], pg. 7, par. [0071]), the plurality of components including a first component (Fig. 11, element AP5) linked (Fig. 11, element CN) to the controller to facilitate at least a sub-process associated with the automated process (pg. 2, par. [0016] and pg. 7,

par. [0071]), the first component including a wireless receiver (pg. 8, par. [0077], i.e. "receiving devices") for receiving signals from the at least one WID (pg. 8, par. [0077] and Fig. 11, element MU); and

a processor (Fig. 11, element CS) linked to the first component for obtaining signals from the receiver and running location determining software for determining the location of the at least one WID (Fig. 11, element MU) as a function of the received signals (pg. 8, par. [0077]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Applicant's invention was shown to be known in the art wherein an human-machine interface (HMI) device is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De

Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 25, De Meyer teaches as set forth above at least one of the automated assembly components includes an accessible mounting surface and wherein the HMI is mounted to the mounting surface (pg. 3, par. [0024]).

As per claim 26, De Meyer teaches as set forth above the HMI includes the processor (pg. 8, par. [0077]).

As per claim 28, De Meyer teaches as set forth above the first receiver is juxtaposed proximate the automated assembly (pg. 3, par. [0024] and [0026] and Fig. 11, element AP5),

the system further including at least a second automated assembly (Fig. 11, element OA3) controlled by the controller (Fig. 11, element CS) and

including a second plurality of components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) provided to facilitate a second automated process (pg. 2, par. [0016]), the second plurality of components including at least a second component (Fig. 11, element AP3) linked to the controller to facilitate at least a sub-process associated

with the second assembly (pg. 3, par. [0077] and Fig. 11, element CN), the second component including a second receiver positioned proximate the second assembly (Fig. 11, element AP3, i.e. receiving devices), the second receiver providing received signals to the processor, the processor determining WID location as a function of signals received from each of the first and second receivers (pg. 8, par. [0077]).

As per claim 29, De Meyer teaches as set forth above the second component is a human-machine interfaces (HMIs) (pg. 3, par. [0024]).

As per claim 30, De Meyer teaches as set forth above the processor is embedded within the first component (pg. 8, par. [0077]).

As per claim 31, De Meyer teaches a location determining assembly for use in an automated environment including at least a first automated assembly (Fig. 11, OA4) including components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) that facilitate an automated process (pg. 2, par. [0016]), at least one portable wireless information device (WID) (pg. 8, par. [0077] and Fig. 11, element MU) and a controller (Fig. 11, element CS) for controlling the assembly (pg. 3, par. [0028] and [0030]), the assembly comprising:

a first human-machine interface (HMI) (Fig. 11, element AP5) associated with the first automated assembly (pg. 5, par. [0052] and pg. 8, par. [0077]) and linked to

the controller via a communication network (Fig. 11, element CN) for at least one of providing information thereto and receiving information there from, the HMI (pg. 3, par. [0028] and [0030]), and a first wireless receiver (pg. 8, par. [0077], i.e. "receiving devices") for receiving wireless signals from the at least one WID (pg. 8, par. [0077] and Fig. 11, element MU); and

a processor (Fig. 11, element CS) receiving signals from the receiver and running location determining software for determining the location of the at least one WID as a function of the signals received therefrom (pg. 8, par. [0077]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure a human machine interface (HMI) device that includes an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a human machine interface (HMI) device that includes an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Applicant's invention was shown to be known in the art wherein an human-machine interface (HMI) device is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par.

[0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 32, De Meyer teaches as set forth above the environment further includes at least a second automated assembly (pg. 2, par. [0016] and Fig. 11, element OA3) controlled by the controller (Fig. 11, element CS) and wherein the assembly further includes a second HMI (Fig. 11, element AP3) associated with the second automated assembly (pg. 5, par. [0052] and pg. 8, par. [0077]) and linked (Fig. 11, element CN) to the controller (Fig. 11, element CS) to at least one of provide information thereto and receive information therefrom (pg. 8, par. [0077]), the second HMI including a second wireless receiver (pg. 8, par. [0077], i.e. "receiving devices") for receiving wireless signals from the at least one WID (pg. 8, par. [0077] and Fig.11, element MU), the processor (Fig. 11, element CS) receiving signals form each of the first and second receivers and determining WID location as a function of the received signals (pg. 8, par. [0077]).

As per claim 33, De Meyer teaches as set forth above the processor is embedded within the first HMI (pg. 8, par. [0077]).

As per claim 35, De Meyer teaches as set forth above the processor provides WID location determination information to the controller and the controller uses the location information to perform a location dependent function (pg. 8, par. [0077]).

As per claim 36, De Meyer teaches as set forth above the location dependent function includes one of providing location dependent information to the at least one WID and modifying control of the automated assembly (pg. 8, par. [0077]).

As per claim 37, De Meyer teaches a system for use in an automated environment including at least first and second automated assemblies (pg. 2, par. [0016], pg. 7, par. [0071], and Fig. 11, element OA3 and OA4) for performing first and second automated processes (pg. 5, par. [0052] and pg. 8, par. [0077]), at least one portable wireless information device (WID) (Fig. 11, element MU) and a controller (Fig. 11, element CS) for controlling the assemblies (pg. 3, par. [0028] and [0030]), the system comprising:

a wireless data communication system linked (Fig. 11, element CN) to the controller and for transmitting data to and receiving data from the at least one WID (pg. 8, par. [0077]);

a first human-machine interface (HMI) (Fig. 11, element AP5) linked (Fig. 11, element CN) to the controller to facilitate at least a sub-process associated with the first automated process (pg. 3, par. [0028] and [0030]) and including a first receiver for

receiving signals from the at least one WID (pg. 8, par. [0077], i.e. "receiving devices"), the first HMI positioned proximate the first automated assembly (pg. 3, par. [0024]) for providing information (par. 3, par. [0023] and [0024]);

a second human-machine interface (HMI) (Fig. 11, element AP3) linked (Fig. 11, element CN) to the controller (Fig. 11, element CS) to facilitate at least a sub-process associated with the second automated process (pg. 3, par. [0028] and [0030]) and including a second receiver (i.e. "receiving devices") for receiving signals from the at least one WID (pg. 8, par. [0077] and Fig. 11. element MU), the second HMI positioned proximate (pg. 3, par. [0024) the second automated assembly for at least one of providing information related thereto (par. 3, par. [0023] and [0024]); and

a processor (Fig. 11, element CS) receiving signals from the first and second receivers and running location determining software for determining the location of the at least one WID (Fig. 11, element MU) as a function of the signals received therefrom (pg. 8, par. [0077]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure a human machine interface (HMI) device that allows a human to directly interface via a display device and receiving control instruction therefore directly from a human via an input device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a human

machine interface (HMI) device that allows a human to directly interface via a display device and receiving control instruction therefore directly from a human via an input device since at the time of Applicant's invention was shown to be known in the art wherein a human-machine interface (HMI) device is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 38, De Meyer teaches as set forth above the wireless communication system (pg. 3, par. [0025] and pg. 8, par. [0077]) includes a plurality of access points (Fig. 11, element AP3-AP6).

As per claim 39, De Meyer teaches as set forth above the system of claim 37 wherein the processor is embedded in the first HMI (pg. 8, par. [0077]).

As per claim 40, De Meyer teaches a method for use in an automated environment including at least a first automated assembly (pg. 2, par. [0016], pg. 7, par. [0071], and Fig. 11, element OA4), at least one portable wireless information device (WID) (Fig. 11, element MU) and a controller (Fig. 11, element CS) for controlling the assembly (pg. 3, par. [0028] and [0030]), the assembly including a

plurality of components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) provided to facilitate an automated assembly process (pg. 2, par. [0016], pg. 7, par. [0071], and Fig. 11, element OA4), the plurality of components including a first component (Fig. 11, element AP5) linked (Fig. 11, element CN) to the controller to facilitate an assembly sub-process (pg. 3, par. [0028] and [0030]), the method comprising the steps of: equipping the first component (Fig. 11, element AP5) with a wireless receiver (i.e. "receiving devices") for receiving wireless signals from the at least one WID (pg. 8, par. [0077]); receiving WID signals via the receiver (pg. 8, par. [0077]); and using the received signals to determine WID location (pg. 8, par. [0077]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Applicant's invention was shown to be known in the art wherein an human-machine

interface (HMI) is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 41, De Meyer teaches as set forth above the step of equipping includes embedding the receiver (i.e. receiving devices) in the HMI (pg. 8, par. [0077]).

As per claim 42, De Meyer teaches as set forth above at least one of the automated assembly components includes a mounting surface accessible within the environment and proximate the automated assembly and wherein the method further includes the step of mounting the HMI to the mounting surface (pg. 3, par. [0024]).

As per claim 44, De Meyer teaches as set forth above the step of using the received signals includes providing a processor as part of the HMI and using the processor to determine WID location (pg. 8, par. [0077]).

As per claim 48, De Meyer teaches as set forth above the environment includes at least a second automated assembly (pg. 2, par. [0016], pg. 7, par. [0071], and Fig.

11, element OA3) controlled by the controller (Fig. 11, element CS), the second assembly including a plurality of components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) provided to facilitate a second automated assembly process (pg. 5, par. [0052] and pg. 8, par. [0077]), the plurality of components including a second component (Fig. 11, element AP3) linked (Fig. 11, element CN) to the controller (Fig. 11, element CS) to facilitate an assembly sub-process (pg. 3, par. [0028] and [0030]), the method further including equipping the second component with a second receiver (i.e. "receiving devices") for receiving WID signals (pg. 8, par. [0077]), the step of receiving including receiving signals form each of the first and second receivers and the step of using the received signals to determine WID location including using the signals form each of the first and second receivers (pg. 8, par. [0077]).

As per claim 50, De Meyer teaches as set forth above the step of using includes providing a processor (Fig. 11, element CS), linking the processor to the first component via a communication network (pg. 7, par. [0071] and pg. 8, par. [0077] and Fig. 11, element CN), transmitting the receiver signals (i.e. "receiving devices") via the communication network to the processor and performing an algorithm via the processor to determine WID location (pg. 8, par. [0077]).

As per claim 51, De Meyer teaches as set forth above the step of linking additional receivers (i.e. "receiving devices") to the processor (Fig. 11, element CS),

obtaining additional WID signals (Fig. 11, element AP3R-AP6R) via the additional receivers and providing the additional WID signals to the processor via the communication network, the step of using further including using at least a sub-set of the signals received from each of the receivers to determine WID location (pg. 8, par. [0077]).

As per claim 54, De Meyer teaches a system for use in an automated environment including a plurality of automated assemblies (Fig. 11, element OA3 and OA4), each assembly including components that facilitate automated processes and at least one portable wireless information device (WID) (Fig. 11, element MU), the system comprising: at least a first processor (pg. 3, par. [0028] and [0030] and Fig. 11, element CS); a set of communication access points (Fig. 11, element AP3-AP6) configured to receive signals from, and transmit signals to, the WID (pg. 3, par. [0025] and pg. 8, par. [0077]; a set of wireless receivers (i.e. "receiving devices"), each wireless receiver integrated with a different component from a first sub-set of the assembly components and configured to receive signals from the WID (pg. 8, par. [0077]); and at least a first communication network (Fig. 11, element CN) linking at least a sub-set of the first subset component to the at least one processor and also linking each access point to the at least one processor (pg. 7, par. [0071]), the at least one processor obtaining WID signals from each of the receivers and also at least one of

transmitting signals to, and receiving signals from, each of the first sub-set assembly components, via the at least a first network (pg. 8, par. [0077]),

wherein at least a sub-set of the first sub-set of the assembly components includes human-machine interfaces (HMIs) (pg. 3, par. [0024]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure each human machine interface (HMI) device includes at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, each human machine interface (HMI) device includes at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Applicant's invention was shown to be known in the art wherein an human-machine interface (HMI) is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 56, De Meyer teaches as set forth above at least one processor (Fig. 11, element CS) both transmits signals to and receives signals from at least a sub-set of the first sub-set of assembly components via the network (pg. 3, par. [0028] and [0030] and pg. 8, par. [0077]).

As per claim 57, De Meyer teaches as set forth above the processor (Fig. 11, element CS) uses the obtained WID signals to determine WID location (pg. 8, par. [0077]).

As per claim 58, De Meyer teaches as set forth above the processor (Fig. 11, element CS) also uses WID signals received from at least a sub-set of the communication access points (Fig. 11, element AP3-AP6) to determine WID location (pg. 8, par. [0077]).

As per claim 59, De Meyer teaches as set forth above at least one processor (Fig. 11, element CS) includes at least a first processor (pg. 3, par. [0028] and [0030]) linked via the at least a first network (Fig. 11, element CN) to the access points (Fig. 11, element AP3-AP6) and at least a second processor (pg. 8, par. [0077], i.e. "HMI communication module") linked via the at least a first network (Fig. 11, element CN) to the first sub-set of assembly components (pg. 1, par. [0009], pg. 4, par. [0051] and pg.

7, par. [0071]) and wherein the at least a first network links the first and second processors together (pg. 7, par. [0071]).

As per claim 60, De Meyer teaches as set forth above the first sub-set of assembly components (Fig. 11, element OA4) includes a first component (Fig. 11, element AP5) and wherein the second processor is integrated into the first component (pg. 8, par. [0077]).

As per claim 62, De Meyer teaches as set forth above at least a first network (Fig. 11, element CN) includes at least a first network (Fig. 11, element CN) that links the communication access points (Fig. 11, element AP3-AP6) to the first processor (pg. 7, par. [0071]) and at least a second network that links the first sub-set assembly components to the second processor (pg. 1, par. [0006], pg. 3, par. [0024] and pg. 8, par. [0077], i.e. "HMI communication module").

As per claim 63, De Meyer teaches as set forth above at least a first processor (Fig. 11, element CS) is remotely (pg. 3, par. [0028] and [0030]) located from the first sub-set assembly components (pg. 8, par. [0077]).

As per claim 64, De Meyer teaches a method for use in an automated environment including a plurality of automated assemblies (pg. 2, par. [0016], pg. 7,

par. [0071], pg. 8, par. [0077], and Fig. 11, element OA3 and OA4), at least one portable wireless information device (WID) (Fig. 11, element MU) and at least one controller (Fig. 11, element CS) for controlling the assemblies (pg. 3, par. [0028] and [0030]), each assembly including a plurality of components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) provided to facilitate an automated assembly process (pg. 2, par. [0016] and pg. 7, par. [0071]), at least a first sub-set of the assembly components linked to the controller (Fig. 11, element CN) to at least one of provide signals thereto or receive signals therefrom (pgs. 2-3, par. [0016] and [0022]) and pg. 8, par. [0077]), the method comprising the steps of: equipping at least a sub-set of the first sub-set of assembly components with wireless receivers (i.e. "receiving devices") for receiving wireless signals from the at least one WID (pg. 8, par. [0077]); receiving WID signals via the receivers (pg. 8, par. [0077]); and using at least a sub-set of the received signals to determine WID location (pg. 8, par. [0077]).

De Meyer does not expressly teach outside the Field of and Background of the Invention section of the Disclosure a stationary human machine interface (HMI) device includes at least one of an input device for receiving input directly from human user of the HMI and a display for providing information directly to a human user of the interface device.

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a stationary

human machine interface (HMI) device includes at least one of an input device for receiving input directly from human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Applicant's invention was shown to be known in the art wherein an human-machine interface (HMI) is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 65, De Meyer teaches as set forth above the step of equipping includes embedding receivers (i.e. "receiving devices") in the assembly components (pg. 8, par. [0077]).

As per claim 66, De Meyer teaches a system for use in an automated environment including at least a first automated assembly (pg. 2, par. [0016], pg. 7, par. [0071], pg. 8, par. [0077], and Fig. 11, element OA3 and OA4) including a plurality of components (pg. 1, par. [0009], pg. 4, par. [0051] and pg. 7, par. [0071]) that facilitate an automated process (pg. 2, par. [0016] and pg. 7, par. [0071]) and a

controller (Fig. 11, element CS) for controlling the assembly (pg. 3, par. [0028] and [0030]), the system comprising:

at least a first wireless information device (WID) (Fig. 11, element MU) including a transceiver (pg. 3, par. [0025]) and a first processor (Fig. 11, element CS);

a first component (Fig. 11, element AP5) that is one of the plurality of components that is linked to the controller (pg. 7, par. [0071] and Fig. 11, element CN) to facilitate at least a sub-process associated with the automated process (pg. 8, par. [0077]), the first component including at least a first wireless transmitter for transmitting wireless signals to the at least one WID (pg. 3, par. [0025]);

at least one receiver (pg. 8, par. [0077], i.e. "receiving devices"); and

at least a second processor linked to the first component (pg. 8, par. [0077], element "HMI communication module") and to the at least one receiver, the at least a second processor running a program to determine WID position as a function of signal strength data generated by the transmitter and the WID (pg. 8, par. [0077]); and

the at least a second processor (Fig. 11, element AP5) obtains the signal strength data from the at least one receiver and uses the obtained data to determine WID position (pg. 8, par. [0077]).

De Meyer does not expressly teach within the same embodiment the at least a first transmitter transmits signals of known signal strength to the WID, the WID determines signal strengths and transmits signal strength data to the at least one receiver; and De Meyer does not expressly teach outside the Field of and Background of

the Invention section of the Disclosure a first component that includes a display device for presenting information to a human user and an input device for receiving input directly from a human user

De Meyer teaches the at least a first transmitter transmits signals of known signal strength to the WID (pg. 3, par. [0025] and pg. 8, par. [0076]; transmission from the HMI to the WID), the WID determines signal strengths and transmits signal strength data to the at least one receiver (pg. 8, par. [0076]; i.e. transmission from the WID to the HMI).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teaching of De Meyer to include within the same embodiment the at least a first transmitter transmits signals of known signal strength to the WID, the WID determines signal strengths and transmits signal strength data to the at least one receive to advantageously downloaded or uploaded HMI data as a function of the location of the assigned universal mobile control and monitoring module in the regional control area of the assigned technical installation, in particular as a function of the distance from the technical installation (pg. 2, par. [0014]), with the use of emission systems for determining the position of the universal, mobile control and monitoring module (pg. 3, par. [0027]).

However, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a first

component that includes a display device for presenting information to a human user and an input device for receiving input directly from a human user since at the time of Applicant's invention was shown to be known in the art wherein an human-machine interface (HMI) is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (pg. 1, par. [0003], [0004], [0006] and [0007]; i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.).

As per claim 67, De Meyer teaches as set forth above at least a first component (Fig. 11, element AP5) includes a plurality of components (pg. 3, par. [0025] and pg. 8, par. [0077]), each of the plurality including a separate transmitter (pg. 3, par. [0025]) and, wherein, the WID receives signals from at least a sub-set of the transmitters (pg. 3, par. [0025]), determines signal strength and transmits the signal strength data to the receiver (pg. 8, par. [0077]).

As per claim 68, De Meyer teaches as set forth above at least one receiver is separate from the at least one component (pg. 7, par. [0071] and pg. 8, par. [0077]).

As per claim 69, De Meyer teaches as set forth above at least one receiver (i.e. "receiving devices") is a communication access point that is part of a wireless communication network (pg. 8, par. [0077]).

Claims 4, 6, 10, 27, 34, 43, 45, 46, 49, 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Meyer in view of U.S. Patent Publication No. 2003/0234741 (hereinafter Rogers).

As per claim 4, De Meyer does expressly teach the first receiver includes a wireless antenna.

Rogers teaches to the receiver includes a wireless antenna (pg. 3, par. [0033] and Fig. 3, element 320).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include a receiver with a wireless antenna to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 6, De Meyer does not expressly teach the location determining software causes the processor to perform a statistical analysis on the received signals to determine WID location.

Rogers teaches to the location determining software causes the processor to perform a statistical analysis on the received signals to determine WID location (pg. 5, par. [0052] and [0055]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include the location determining software causes the processor to perform a statistical analysis on the received signals to determine WID location to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 10, De Meyer does not expressly teach the location determining software causes the processor to perform a statistical analysis on the received signals to determine WID location.

Rogers teaches a statistical analysis on the received signals to determine WID location (pg. 5, par. [0052] and [0055]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include a statistical analysis on the received signals to determine WID location to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 27, De Meyer does not expressly teach the location determining software causes the processor to perform at least one of a statistical analysis and a triangulation method on the received signals to determine WID location.

Rogers teaches to a statistical analysis (pg. 5, par. [0052] and [0055]) and a triangulation method (pg. 5, par. [0050] and [0054]) on the received signals to determine WID location.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant’s invention to modify the teaching of De Meyer to include at least one of a statistical analysis and a triangulation method on the received signals to determine WID location to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 34, De Meyer does not expressly teach the processor performs at least one of a statistical analysis and a triangulation method on the received signals to determine WID location.

Rogers teaches to a statistical analysis (pg. 5, par. [0052] and [0055]) and a triangulation method (pg. 5, par. [0050] and [0054]) on the received signals to determine WID location.

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the Applicant's invention to modify the teaching of De Meyer to include at least one of a statistical analysis and a triangulation method on the received signals to determine WID location to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 43, De Meyer does not expressly teach to the step of embedding includes integrating a wireless antenna with the HMI.

Rogers teaches to a wireless antenna (pg. 3, par. [0033] and Fig. 3, element 320).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include a wireless antenna to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 45, De Meyer does not expressly teach the step of using the processor includes at least one of performing a statistical analysis and a triangulation method on the location information received from the receiver.

Rogers teaches to a statistical analysis (pg. 5, par. [0052] and [0055]) and a triangulation method (pg. 5, par. [0050] and [0054]) on the location information received from the receiver.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include a statistical analysis and a triangulation method on the location information received from the receiver to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 46, De Meyer teaches the step of receiving additional WID signals via other receivers (i.e. "receiving devices"), providing the other received signals to the processor (Fig. 11, element CS and pg. 8, par. [0077])

De Meyer does not expressly teach to performing the statistical analysis on the received WID signals.

Rogers teaches to performing the statistical analysis on the received signals (pg. 5, par. [0052] and [0055]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include performing the statistical analysis on the received signals to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 49, De Meyer does not expressly teach to the step of using includes performing at least one of a statistical analysis and a triangulation method on the received signals to determine WID location.

Rogers teaches to a statistical analysis (pg. 5, par. [0052] and [0055]) and a triangulation method (pg. 5, par. [0050] and [0054]) on the received signals to determine location.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include performing at least one of a statistical analysis and a triangulation method on the received signals to determine location to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 52, De Meyer does not expressly teach the step of equipping includes providing a port on the first component for receiving a linkage, providing an antenna, mounting the antenna and linking the antenna to the first component port via a linkage.

Rogers teaches to a wireless antenna (pg. 3, par. [0033] and Fig. 3, element 320) Connected to a network access devices (Fig. 3, element 300).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include to a wireless antenna connected to a network access devices to enhance the resolution and accuracy of determination of the location of wireless network access point devices (pg. 3, par. [0030]).

As per claim 53, De Meyer teaches as set forth above the first component is a stationary human-machine interface (HMI) device (pg. 3, par. [0024]).

Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over De Meyer in view of U.S. Patent Publication No. 2004/0235468 (hereinafter Luebke).

As per claim 8, De Meyer does not expressly teach the network is an Ethernet network.

Luebke teaches to an Ethernet network (pg. 3, par. [0042]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teaching of De Meyer to include to an Ethernet network to minimizes latency by providing regional network coordinator (pg. 4, par. [0051]).

(10) Response to Argument

Appellant's arguments (regarding (7) Arguments section), filed 12 January 2010, have been fully considered but are not persuasive.

1) Claims 1, 3, 5, 7, 9, 11-23, 25, 26, 28-33, 35-42, 44, 48 , 50, 51, 54, 56-60 62-69 are not obvious over De Meyer.

a) In regards to Appellant's argument that De Meyer does not teach (with respect to claim 1), "the wireless receives may, should or could be included in stationary interface devices where the interface devices also include at least one of an input device and a display" (Brief, pg. 10, paragraph 4); the Examiner recognizes the Appellant has not accounted for the combination of embodiments of De Meyer under 35 U.S.C 103(a) for this limitation as set forth above and in the Final Office Action, mailed on 12 January 2010.

> Furthermore, De Meyer teaches, "Technical installations include all types of technical equipment and systems, both individually in stand-alone arrangements and interconnected in data networks, e.g., via a field bus. In industrial applications, such technical installations include individual apparatuses, such as drives and processing machines. However, a technical installation can also be a production plant, in which an entire technical process is operated by locally distributed control apparatuses. Such a production facility is, for example, a chemical facility or an assembly line. Technical installations are controlled and operated by special digital data processing systems, which are also referred to as automation systems. Such systems include devices for the direct control of the technical installation, i.e., programmable logic controllers or PLCs. To relieve these controllers, automation systems have other special devices that form an interface for operator personnel. These devices are called "control and monitoring" devices, ("C&M" for short), or HMI devices, i.e., human machine interfaces." (pg. 1, par. [0003])

"The term "HMI device" is a generic term and includes all the components belonging to this group of devices, such as, e.g., operator panels (OP for short). These operator panels can be stationary or mobile devices. In a networked automation system, operator personnel use HMI devices to display and control process data of the technical installation to be controlled. This function is referred to as "supervisory control and data acquisition" (SCADA). For this purpose, the HMI device usually has a special hardware structure, i.e., it is provided, for example, with a touch screen and is specially shielded against environmental influences. The HMI devices also use a special type of software, which provides functions to improve operational ease of use, quality and safety when the HMI devices are operated by an operator. For example, HMI devices can visualize, control, design and generate interactive process images or representations of the technical installation to be controlled. This makes it possible to selectively display responses of the technical installation, typically in the form of measured values and messages. In addition, specific operator actions and data inputs make it possible to bring the technical installation into desired states." (pg. 1, par. [0004])

"However, such a fixed, data-related allocation or assignment of an HMI device to an automation system and the technical installation connected thereto has drawbacks. Since all the machine and control specific data of the installation is fixedly stored in the HMI device, the flexibility of such an HMI device is usually limited. Therefore, these HMI devices are often stationary and mounted in the immediate spatial environment of the associated technical installation. Thus, an operator has to go to the location of the respective HMI device and is therefore limited in his or her freedom to move. Furthermore, both the HMI device and the operator are continuously exposed to the environmental conditions present at the mounting site." (pg. 1, par. [0006])

"If such an HMI device must be replaced, all the machine and control specific data must be reloaded in order to completely restore the operability of the original HMI device. Even if the HMI devices are mobile, e.g., in the form of cable-bound or radio-linked handheld devices, they are typically allocated or assigned to a technical installation or to a control apparatus thereof in logically unique manner. Again, this typically means that all the design, display and machine data has to be loaded into the handheld device; i.e., the data must be kept available for all possible monitoring and control situations, irrespective of how frequently the data is actually used. As a consequence, the hardware and software for such HMI devices must be powerful enough and, thus, if such devices fail and

have to be replaced, significant costs may be incurred." (pg. 1, par. [0007])

"The control area OA includes, for example, a first regional control area OA1 and a second regional control area OA2. The first regional control area OA1 is assigned, for example, to the technical installation M1 located adjacent thereto and is managed by the first HMI data module AP1, which is connected to the technical installation M1. The second regional control area OA2 is assigned, for example, to the technical installation M2 located therein and is managed by the second HMI data module AP2, which is connected to the technical installation M2. According to the invention, the regional control areas OA1, OA2 ensure that the first or second technical installation M1 or M2 can be controlled only if an operator is located within the respectively assigned regional control area OA1 or OA2. By way of example, the first regional control area OA1 is located next to the first technical installation M1, because, for safety reasons, the operator is not permitted to approach the first technical installation M1. In contrast, the second technical installation M2 may be more or less completely surrounded by the regional control area OA2, because it is necessary or at least advantageous for a person to monitor the second technical installation M2 from all spatial directions when this installation is being operated." (pg. 5, par. [0052])

"It is one special advantage of the invention that, unlike conventional HMI devices, the function of managing HMI data is assigned to an HMI data module, and the function of displaying and controlling HMI data is assigned to a universal, mobile control and monitoring module. The "management" and "display and control" functions are thus assigned to those devices in which they can be implemented in the most effective manner. For example, a technical installation represents a source and a destination for HMI data, but is not in every case also suited for direct control and monitoring. On the other hand, a universal, mobile control and monitoring module is best suited to provide display and control functions, but is not in every case suited to also manage possibly voluminous HMI data." (pg. 7, par. [0067])

"The above description of the preferred embodiments has been given by way of example. From the disclosure given, those skilled in the art will not only understand the present invention and its attendant advantages, but will also find apparent various changes and modifications to the structures and methods disclosed. It is sought, therefore, to cover

> all such changes and modifications as fall within the spirit and scope of the invention, as defined by the appended claims, and equivalents thereof." (pg. 8, par. [0080]).

In summary, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Appellant invention was shown to be known in the art wherein an human-machine interface (HMI) device is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.) to advantageously provide a means of handling excess HMI data (i.e. APIs comprising of a wireless receiver, interface and display) since mobile control and monitoring modules are not always suitable for handling voluminous amounts of HMI data.

b) With respect to the Appellant's arguments, "In addition, despite the Examiner's assertion that De Meyer does not teach way from the stationary HMIs, Applicant maintains that De Meyer does teach away." (Brief, pg. 11, paragraph 3) The Examiner respectfully disagrees.

MPEP 2123 states:

> "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyesterimide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyesterimide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.). Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed…." In re Fulton,391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

> In addition, De Meyer teaches "**The above description of the referred embodiments has been given by way of example**. From the disclosure given, those skilled in the art will not only understand the present invention and its attendant advantages, but will also find apparent various changes and modifications to the structures and methods disclosed. It is sought, therefore, to cover all such changes and modifications as fall within the spirit and scope of the invention, as defined by the appended claims, and equivalents thereof." (pg. 8, par. [0080]).

In summary, De Meyer teaches referred embodiments of its disclosure are examples, which can be changed or modified in structure and methods, thus per MPEP

2123, "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments."

c) With respect to Appellant's argument "Applicant examined De Meyer closely to attempt to identify any reason contemplated by De Meyer for including both stationary and mobile HMIs in a single system and was unable to locate even one suggestion or hint that both types of interfaces should be included in a single system. This lack of teaching or suggestion of combining in De Meyer is not surprising because De Meyer teaches a mobile replacement system for replacing stationary HMIs." (Brief, pg. 11, paragraph 4 – pg. 12, paragraph 1) The Examiner respectfully disagrees.

> De Meyer teaches, "Technical installations include all types of technical equipment and systems, both individually in stand-alone arrangements and interconnected in data networks, e.g., via a field bus. In industrial applications, such technical installations include individual apparatuses, such as drives and processing machines. However, a technical installation can also be a production plant, in which an entire technical process is operated by locally distributed control apparatuses. Such a production facility is, for example, a chemical facility or an assembly line. Technical installations are controlled and operated by special digital data processing systems, which are also referred to as automation systems. Such systems include devices for the direct control of the technical installation, i.e., programmable logic controllers or PLCs. To relieve these controllers, automation systems have other special devices that form an interface for operator personnel. These devices are called "control and monitoring" devices, ("C&M" for short), or HMI devices, i.e., human machine interfaces." (pg. 1, par. [0003])
>
> "The term "HMI device" is a generic term and includes all the components belonging to this group of devices, such as, e.g., operator panels (OP for short). These operator panels can be stationary or mobile devices. In a networked automation system, operator personnel use HMI

devices to display and control process data of the technical installation to be controlled. This function is referred to as "supervisory control and data acquisition" (SCADA). For this purpose, the HMI device usually has a special hardware structure, i.e., it is provided, for example, with a touch screen and is specially shielded against environmental influences. The HMI devices also use a special type of software, which provides functions to improve operational ease of use, quality and safety when the HMI devices are operated by an operator. For example, HMI devices can visualize, control, design and generate interactive process images or representations of the technical installation to be controlled. This makes it possible to selectively display responses of the technical installation, typically in the form of measured values and messages. In addition, specific operator actions and data inputs make it possible to bring the technical installation into desired states." (pg. 1, par. [0004])

"However, such a fixed, data-related allocation or assignment of an HMI device to an automation system and the technical installation connected thereto has drawbacks. Since all the machine and control specific data of the installation is fixedly stored in the HMI device, the flexibility of such an HMI device is usually limited. Therefore, these HMI devices are often stationary and mounted in the immediate spatial environment of the associated technical installation. Thus, an operator has to go to the location of the respective HMI device and is therefore limited in his or her freedom to move. Furthermore, both the HMI device and the operator are continuously exposed to the environmental conditions present at the mounting site." (pg. 1, par. [0006])

"If such an HMI device must be replaced, all the machine and control specific data must be reloaded in order to completely restore the operability of the original HMI device. Even if the HMI devices are mobile, e.g., in the form of cable-bound or radio-linked handheld devices, they are typically allocated or assigned to a technical installation or to a control apparatus thereof in logically unique manner. Again, this typically means that all the design, display and machine data has to be loaded into the handheld device; i.e., the data must be kept available for all possible monitoring and control situations, irrespective of how frequently the data is actually used. As a consequence, the hardware and software for such HMI devices must be powerful enough and, thus, if such devices fail and have to be replaced, significant costs may be incurred." (pg. 1, par. [0007])

"The control area OA includes, for example, a first regional control area OA1 and a second regional control area OA2. The first regional control area OA1 is assigned, for example, to the technical installation M1 located adjacent thereto and is managed by the first HMI data module AP1, which is connected to the technical installation M1. The second regional control area OA2 is assigned, for example, to the technical installation M2 located therein and is managed by the second HMI data module AP2, which is connected to the technical installation M2. According to the invention, the regional control areas OA1, OA2 ensure that the first or second technical installation M1 or M2 can be controlled only if an operator is located within the respectively assigned regional control area OA1 or OA2. By way of example, the first regional control area OA1 is located next to the first technical installation M1, because, for safety reasons, the operator is not permitted to approach the first technical installation M1. In contrast, the second technical installation M2 may be more or less completely surrounded by the regional control area OA2, because it is necessary or at least advantageous for a person to monitor the second technical installation M2 from all spatial directions when this installation is being operated." (pg. 5, par. [0052])

"According to the invention, universal, mobile control and monitoring modules MU are provided to operate the technical installations. These modules are preferably mobile, industrial handheld terminals, which typically have large displays, e.g., LCD displays, and a plurality of input keys and keypads. Also, mobile control and monitoring modules are often equipped with touch-sensitive displays, such as, in particular, touch screens. However, it is also possible to use non-industrial, wireless devices, e.g., mobile telephones or personal digital assistants (PDAs), as the mobile control and monitoring modules. In FIG. 1 to 3, a control and monitoring module MU is represented by a circle, which is located, for example, within the second regional control area OA2. For reasons of clarity, an operator is not depicted in FIG. 1 to 3. (pg. 5, par. [0053])

"It is one special advantage of the invention that, unlike conventional HMI devices, the function of managing HMI data is assigned to an HMI data module, and the function of displaying and controlling HMI data is assigned to a universal, mobile control and monitoring module. The "management" and "display and control" functions are thus assigned to those devices in which they can be implemented in the most effective manner. For example, a technical installation represents a source and a destination for HMI data, but is not in every case also suited for direct control and monitoring. On the other hand, **a universal, mobile**

> **control and monitoring module is best suited to provide display and control functions, but is not in every case suited to also manage possibly voluminous HMI data."** (pg. 7, par. [0067])

Hence, the Examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, De Meyer teaches to advantageously providing a means of handling excess HMI data since the mobile control and monitoring module is not always suitable for handling a voluminous amount of HMI data, wherein that means (i.e. APIs comprising of a wireless receiver) is a stationary human-machine interface (HMI) device comprising an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De Meyer reference (i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled).

d) With respect to Appellant's argument, "claims 23, 31, 37, 40, 54 and 64, each of those claims has limitations that are similar to claim 1 limitations described above and Applicant believes that claims 23, 31, 37, 40, 54, and 64 and claims that depend

therefrom are non-obvious over De Meyer for the same reasons that claim 1 is non-obvious as discussed above." (Brief, pg. 12, paragraph 3) The Examiner refers to the above response of section 1) Claims 1, 3, 5, 7, 9, 11-23, 25, 26, 28-33, 35-42, 44, 48, 50, 51, 54, 56-60 62-69, sub-sections a) - c), and the argument herein as addressed for the same rationale.

e) In regards to Appellant's argument that De Meyer does not teach (with respect to claim 66), "... transmitting strength data from any device to any other device. In addition, De Meyer fails to teach or suggest a WID transmitting signal strength data to a second processor so that the second processor can use the signal strength data to determine WID location."; Brief, pg. 13, paragraph 2) The Examiner respectfully disagrees.

As previously addressed in the Office Action mailed on 12 January 2010 (pgs. 6-8, paragraph 5):

> De Meyer discloses "In the exemplary embodiment of FIG. 8, the mobile control and monitoring module MU receives and analyzes, in a first step, short-range fields so as to determine the position of the module MU. These short-range fields are, in particular, emission signals of neighboring HMI communications modules. **In FIG. 8, these emission signals are, for example, emission signals AP5S, AP6S of the third and fourth HMI communications module AP5, AP6, in particular field strengths emitted therefrom.** In a second step, as illustrated in FIG. 9, the mobile control and monitoring module MU sends transmission messages PAP6 to the closest HMI communications module AP6. The transmission messages PAP6 contain, in particular, position data, and the closest HMI communications module AP6 is, in this case, coupled to the

end of the data bus or data network CN, for example. As illustrated in FIG. 10, since the mobile communications and monitoring module MU is now assigned to the regional control area OA4 and, thus, to the technical installation M4, data messages DAP6, which are provided by the central server CS, are transmitted, in a third step, to the mobile control and monitoring module MU. The transmission of the data messages DAP6 takes place, e.g., via the closest HMI communications module AP6, and the data messages DAP6 contain, in particular, associated HMI display data and/or HMI initialization data." (pg. 8, par. [0076]) (emphasis added)

"**In contrast, in the exemplary embodiment of FIG. 11, emissions MUS of the mobile control and monitoring module MU are received, in a first step, by neighboring HMI communications modules, e.g., the modules AP5, AP6, and are analyzed to determine the position of the mobile control and monitoring module MU. The receiving devices in the HMI communications modules that are required for this purpose are configured, e.g., as GSM, GPRS or WLAN transmitting and receiving devices. The position is then determined by analyzing these emissions, either in an HMI communications module or in the central server.** As illustrated in FIG. 12, since the mobile control and monitoring module MU is now assigned to the regional control area OA4 and, thus, to the technical installation M4, data messages DAP6, which are provided by the central server CS, are transmitted, in a third step, to the mobile control and monitoring module MU. The transmission of the data messages DAP6 takes place, e.g., via the closest HMI communications module AP6, and the data messages DAP6 contain, in particular, associated HMI display data and/or HM initialization data." (pg. 8, par. [0077]) (emphasis added)

Therefore, the Examiner recognizes the Appellant has not accounted for the combination of embodiments in De Meyer under 35 U.S.C 103(a) for this limitation as set forth in the Final Office Action, mailed on 12 January 2010, where De Meyer teaches a second processor (an HMI communications module or the central server) separate from the MU that determines the position of the device MU as highlighted above of pg. 8, par. [0077] in De Meyer; and the WID does transmit signal strength information as

highlighted above of pg. 8, par. [0076] in De Meyer.

With respect to Appellant's argument (pertaining to claim 66), "nothing in De Meyer teaches or even remotely suggests a system that includes, in addition to a WID, a component that includes a display, an input device and a wireless transceiver and, in fact, because De Meyer teaches a replacement for standard stationary interface devices, De Meyer teaches away from such a system." (Brief, pg. 15, paragraph 2) The Examiner respectfully disagrees.

The Examiner recognizes the Appellant has not accounted for the combination of embodiments of De Meyer under 35 U.S.C 103(a) for this limitation as set forth above and in the Final Office Action, mailed on 12 January 2010.

> Furthermore, De Meyer teaches, "Technical installations include all types of technical equipment and systems, both individually in stand-alone arrangements and interconnected in data networks, e.g., via a field bus. In industrial applications, such technical installations include individual apparatuses, such as drives and processing machines. However, a technical installation can also be a production plant, in which an entire technical process is operated by locally distributed control apparatuses. Such a production facility is, for example, a chemical facility or an assembly line. Technical installations are controlled and operated by special digital data processing systems, which are also referred to as automation systems. Such systems include devices for the direct control of the technical installation, i.e., programmable logic controllers or PLCs. To relieve these controllers, automation systems have other special devices that form an interface for operator personnel. These devices are called "control and monitoring" devices, ("C&M" for short), or HMI devices, i.e., human machine interfaces." (pg. 1, par. [0003])

"The term "HMI device" is a generic term and includes all the components belonging to this group of devices, such as, e.g., operator panels (OP for short). These operator panels can be stationary or mobile devices. In a networked automation system, operator personnel use HMI devices to display and control process data of the technical installation to be controlled. This function is referred to as "supervisory control and data acquisition" (SCADA). For this purpose, the HMI device usually has a special hardware structure, i.e., it is provided, for example, with a touch screen and is specially shielded against environmental influences. The HMI devices also use a special type of software, which provides functions to improve operational ease of use, quality and safety when the HMI devices are operated by an operator. For example, HMI devices can visualize, control, design and generate interactive process images or representations of the technical installation to be controlled. This makes it possible to selectively display responses of the technical installation, typically in the form of measured values and messages. In addition, specific operator actions and data inputs make it possible to bring the technical installation into desired states." (pg. 1, par. [0004])

"However, such a fixed, data-related allocation or assignment of an HMI device to an automation system and the technical installation connected thereto has drawbacks. Since all the machine and control specific data of the installation is fixedly stored in the HMI device, the flexibility of such an HMI device is usually limited. Therefore, these HMI devices are often stationary and mounted in the immediate spatial environment of the associated technical installation. Thus, an operator has to go to the location of the respective HMI device and is therefore limited in his or her freedom to move. Furthermore, both the HMI device and the operator are continuously exposed to the environmental conditions present at the mounting site." (pg. 1, par. [0006])

"If such an HMI device must be replaced, all the machine and control specific data must be reloaded in order to completely restore the operability of the original HMI device. Even if the HMI devices are mobile, e.g., in the form of cable-bound or radio-linked handheld devices, they are typically allocated or assigned to a technical installation or to a control apparatus thereof in logically unique manner. Again, this typically means that all the design, display and machine data has to be loaded into the handheld device; i.e., the data must be kept available for all possible monitoring and control situations, irrespective of how frequently the data is actually used. As a consequence, the hardware and software for such HMI devices must be powerful enough and, thus, if such devices fail and

> have to be replaced, significant costs may be incurred.” (pg. 1, par. [0007])
>
> “It is one special advantage of the invention that, unlike conventional HMI devices, the function of managing HMI data is assigned to an HMI data module, and the function of displaying and controlling HMI data is assigned to a universal, mobile control and monitoring module. The "management" and "display and control" functions are thus assigned to those devices in which they can be implemented in the most effective manner. For example, a technical installation represents a source and a destination for HMI data, but is not in every case also suited for direct control and monitoring. On the other hand, a universal, mobile control and monitoring module is best suited to provide display and control functions, but is not in every case suited to also manage possibly voluminous HMI data.” (pg. 7, par. [0067])
>
> “The above description of the preferred embodiments has been given by way of example. From the disclosure given, those skilled in the art will not only understand the present invention and its attendant advantages, but will also find apparent various changes and modifications to the structures and methods disclosed. It is sought, therefore, to cover all such changes and modifications as fall within the spirit and scope of the invention, as defined by the appended claims, and equivalents thereof.” (pg. 8, par. [0080]).

In summary, it would have been known to those of ordinary skill in the field of communications and interfaces to have used the tools at hand, specifically, a stationary human machine interface (HMI) device including at least one of an input device for receiving input directly from a human user of the HMI and a display for providing information directly to a human user of the interface device since at the time of Appellant’s invention was shown to be known in the art wherein an human-machine interface (HMI) device is an interface that allows a human to directly interface with a machine as taught in the Field of and Background of the Invention section of the De

Meyer reference (i.e. HMI interfaces are operator panels that are operated by an operator to visualize, control, design, and generate interactive process images or representations of the technical installation to be controlled.) to advantageously provide a means of handling excess HMI data since the mobile control and monitoring module (Fig. 11, element MU) is not always suitable for handling a voluminous amount of HMI data.

<u>2) Claims 4, 6, 10, 27, 34, 43, 45, 46, 49, 52 and 53 are not obvious over De Meyer in view of Rogers.</u>

f) With respect to Appellant's argument, "Each of claims 4, 6, 10, 27, 34, 43, 45, 46, 49, 52, and 53 depend from claims that require limitations similar to the limitations described above with respect to claim 1, and each is therefore believed to be non-obvious over De Meyer for the essentially the same reasons that claim 1 is non-obvious as discussed above." (Brief, pg. 15, paragraph 4) The Examiner refers to the above response of section 1) Claims 1, 3, 5, 7, 9, 11-23, 25, 26, 28-33, 35-42, 44, 48, 50, 51, 54, 56-60 62-69, sub-sections a) - c), and the argument herein as addressed for the same rationale.

g) With respect to Appellant's argument, "Claim 8 depends from independent claim 1, and is therefore believed to be non-obvious over De Meyer for the same reasons that claim 1 is non-obvious as discussed above." (Brief, pg. 15, paragraph 5)

The Examiner refers to the above response of section 1) Claims 1, 3, 5, 7, 9, 11-23, 25, 26, 28-33, 35-42, 44, 48, 50, 51, 54, 56-60 62-69, sub-sections a) - c), and the argument herein as addressed for the same rationale.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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